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Is Kinesio Tape Better Than a Placebo?

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NORTHERN ILLINOIS UNIVERSITY

Is Kinesio Tape better than a Placebo?

A Thesis Submitted to the

University Honors Program

In Partial Fulfillment of the

Requirements of the Baccalaureate Degree

With Upper Division Honors

Department Of

Kinesiology

By

Katie Schneider

DeKalb, Illinois

May 11, 2019

University Honors Program

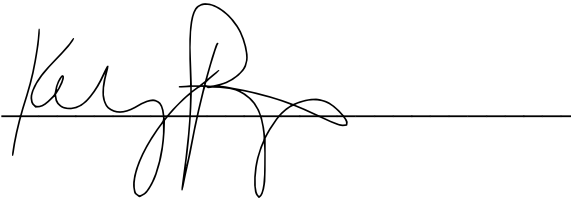
University Honors Program
Capstone Approval Page

Capstone Title: Is Kinesio Tape better than a Placebo?

Student Name: Katie Schneider

Faculty Supervisor: Dr. Kelly Potteiger

Faculty Approval Signature

A handwritten signature in black ink, appearing to read 'Kelly Potteiger', is written over a horizontal line. The signature is cursive and stylized.

Department of: Kinesiology

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ABSTRACT

Kinesio tape is designed to provide support and stability to joints and muscles without impacting circulation and the body's range of motion. However, how does kinesiotape physically impact the pain and function of a patient with a musculoskeletal injury? If pain and function are positively influenced, is the improvement attributed to the KT treatment or is it a placebo effect? In the attempt to answer these questions, I performed a review of the literature. Criteria that I looked at while researching articles using PubMed was that they were written in English, studied the effects of KT on musculoskeletal injuries and free articles. With these criteria in mind I found 7 solid articles dealing with the effects KT has on patients suffering from a musculoskeletal injury. Of those 7 articles 3 showed improvement of pain while using KT, 2 showed no change in pain and function when using kinesiotape, and 2 showed minimal improvement of function with the use of kinesiotape. More evidence needs to be acquired to make a scientific claim for KT's ability to reduce pain and increase function in patients who suffer from a musculoskeletal injury.

HONORS THESIS ABSTRACT
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BIBLIOGRAPHY:

1. Parreira Pdo CS, Costa Lda CM, Hespanhol LC, Lopes AD, Costa LOP. Current Evidence Does Not Support the Use of Kinesio Taping in Clinical Practice: A Systematic Review. *Journal of Physiotherapy*. 2014;60(1):31-39.
2. Carlos F, Pairot B, Bouyer LJ, Desmeules F, Roy J-S. Effects of Kinesiotaping added to a Rehabilitation Program for Patients with Rotator Cuff Tendinopathy: Protocol for a single-blind, randomized controlled trial addressing symptoms, functional limitations and underlying deficits. *BMJ Open*. 9AD;7(9).
3. Huang Y-C, Chang K-H, Liou T-H, Cheng C-W, Lin L-F, Huang S-W. Effects of Kinesio Taping for Stroke Patients with Hemiplegic Shoulder Pain: A Double- Blind, Randomized, Placebo-Controlled Study. *JORM* 2017;(49):208-215.
4. Briem K, Eythorsdotir H, Magnusdottir RG, Palmarrsson R, Runarsdottir T, Sveinsson T. Effects of Kinesio Tape Compared with Non-elastic Sports Tape and the Un-taped Ankle During a Sudden Inversion Perturbation in Male Athletes. *Journal of Orthopedic & Sports Physical Therapy*. 2011;41(5):328-334.

5. Cho Y-T, Hsu W-Y, Lin L-F, Lin Y-N. Kinesio taping reduces elbow pain during resisted wrist extension in patients with chronic lateral epicondylitis: a randomized, double-blinded, cross-over study. *BMC Musculoskeletal Disorders*. 2018;19(193).
6. Luz MA, Soussa MV, Neves LA, Cezar AA, Costa LO. Kinesio Taping® is not better than placebo in reducing pain and disability in patients with chronic non-specific low back pain: a randomized controlled trial. *Brazilian Journal of Physical Therapy*. 2015;19(6):482-490.
7. Rahlf AL, Braumann K-M, Zech A. Kinesio Taping Improves Perceptions of Pain and Function of Patients with Knee Osteoarthritis. A Randomized, controlled trial. *Journal of Sport Rehabilitation*. February 2018.

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Kinesio tape was first invented in the mid 1970's by a Japanese chiropractor.¹ Dr. Kenzo Kase designed his product to provide support and stability to joints and muscles without impacting circulation and the body's range of motion. Today, Kinesio tape is used for numerous ailments.² The most common use is for the treatment of musculoskeletal pathologies, such as rotator cuff tendinopathy, low-back pain and numerous other pathologies. Kinesio tape is thought to assist with the relief of pain and improved function by elevating the skin to reduce pressure on the receptors that are situated below the skin, which reduces the nociceptive (i.e. Painful) stimuli. This is accomplished by the amount of traction used when applying the tape. The traction that is applied when using KT tape promotes the elevation of the skin. Research has found that Kinesio tape may improve blood and lymphatic circulation, reduced pain intensity, aid in realignment of joints and change in the recruitment activity patterns of the treated muscle.²

Finding articles written about kinesio tape and a placebo tape were difficult to find. While researching I was able to broaden my search of articles to all of those that involved the use of kinesiotape on a musculoskeletal injury. The ones chosen had the highest Pedro scores along with being applicable in my chosen field of study.

Clinical Question

Does Kinesio tape decrease pain and increase function better than a placebo in the treatment of musculoskeletal injuries?

Summary of Findings

When it comes to whether or not Kinesio Tape decreases pain and/or edema better than a sham tape, the evidence is unclear. Of the 7 articles that I found credible, the results were as following; 3 showed improvement of pain while using KT, 2 showed no change in pain and function when using kinesiotape, and 2 showed minimal improvement of function with the use of kinesiotape. Those studies that showed minimal improvement were on the edge of whether or not KT worked in decrease pain and improving function because of how close they were.

To better back up the chosen articles, a Pedro Score was given to each article. All but one article received a 7 out of 10 or higher on the Pedro score. The studies neglected to blind everyone participating in the study which is were most of the articles lost points. They also lost points in not providing readers with both point measurements and measurements of variability for any of the key outcomes.

When applying these results to patient care, medical providers should take into consideration that if they use kinesiotape for a musculoskeletal injury the athlete might not physically get better. However, kinesiotape could be used as a way to get through rehab with a minimal amount pain. In an article the authors go so far to suggest that Physical Therapist avoid using KT due to the lack of evidence and the fact that it is so similar to sham tape.⁷

Kinesio tape was used to aid patients with hemiplegic shoulder pain after they had a stroke. Hemiplegic shoulder pain is pain in the shoulder that results from muscle weakness and/or partial paralysis on one side of the body. The results of this study

suggested that patients with this condition experience less shoulder pain and an increase in shoulder flexion as well as external and internal rotation of the shoulder when using kinesio tape opposed to the sham taping technique. The kinesio tape group showed more improvement in the Likert scale measuring pain, shoulder flexion, external and internal rotation and shoulder pain and disability index than the sham group, however improvement was minimal.

Along with decreasing pain for patients who exhibit hemiplegic shoulder pain, KT was used in a study to examine the effects it had during a sudden inversion perturbation in a male patient.⁴ Researchers compared non-elastic sports tape (white tape) with kinesio tape and a control group with patients who did not use either taping method. The results failed to support KT ability to prevent inversion ankle sprains was unlikely as it had no effect on muscle activation of the fibularis longus. Non-elastic sports tape results indicated that it is more likely for it to enhance dynamic muscle support of the ankle than KT is.

Criteria that I looked at while researching articles using PubMed was that they were written in English, studied the effects of KT on musculoskeletal injuries and free articles. With these criteria in mind I found 7 solid articles dealing with the effects KT has on patients suffering from a musculoskeletal injury. Key words that were used in the process of finding articles were “kinesio tape decreasing pain”.

Clinical Bottom Line

More evidence needs to be acquired to make a scientific claim for KT's ability to reduce pain and edema in patients who suffer from a musculoskeletal injury. This is a

costly treatment for little, if any, actual effects. Kinesiotape can range from \$13 to \$45 a roll. It would be cost beneficial if patients were to wear braces or other taping techniques for different musculoskeletal injuries rather than use kinesiotape. Braces can last up to years, kinesiotape last a short amount of time.

Of those 7 articles 3 showed decrease of pain while using KT, 2 showed no change in pain and function when using kinesiotape, and 2 showed minimal improvement of function with the use of kinesiotape. Although there was little to no difference in the decrease of pain and increase in function between the numerous types of tape, a person's injury and state of mind could play a role in the effects kinesio tape has on them.

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1. Parreira Pdo CS, Costa Lda CM, Hespanhol LC, Lopes AD, Costa LOP. Current Evidence Does Not Support the Use of Kinesio Taping in Clinical Practice: A Systematic Review. *Journal of Physiotherapy*. 2014;60(1):31-39.
2. Carlos F, Pairot B, Bouyer LJ, Desmeules F, Roy J-S. Effects of Kinesiotaping added to a Rehabilitation Program for Patients with Rotator Cuff Tendinopathy: Protocol for a single-blind, randomized controlled trial addressing symptoms, functional limitations and underlying deficits. *BMJ Open*. 9AD;7(9).
3. Huang Y-C, Chang K-H, Liou T-H, Cheng C-W, Lin L-F, Huang S-W. Effects of Kinesio Taping for Stroke Patients with Hemiplegic Shoulder Pain: A Double-Blind, Randomized, Placebo-Controlled Study. *JORM* 2017;(49):208-215.
4. Briem K, Eythorsdotir H, Magnusdottir RG, Palmarsson R, Runarsdottir T, Sveinsson T. Effects of Kinesio Tape Compared with Non-elastic Sports Tape and the Un-taped Ankle During a Sudden Inversion Perturbation in Male Athletes. *Journal of Orthopedic & Sports Physical Therapy*. 2011;41(5):328-334.
5. Cho Y-T, Hsu W-Y, Lin L-F, Lin Y-N. Kinesio taping reduces elbow pain during resisted wrist extension in patients with chronic lateral epicondylitis: a randomized, double-blinded, cross-over study. *BMC Musculoskeletal Disorders*. 2018;19(193).
6. Luz MA, Soussa MV, Neves LA, Cezar AA, Costa LO. Kinesio Taping® is not better than placebo in reducing pain and disability in patients with chronic non-specific low back pain: a randomized controlled trial. *Brazilian Journal of Physical Therapy*. 2015;19(6):482-490.

7. Rahlf AL, Braumann K-M, Zech A. Kinesio Taping Improves Perceptions of Pain and Function of Patients with Knee Osteoarthritis. A Randomized, controlled trial. *Journal of Sport Rehabilitation*. February 2018.

Annotated Bibliography

Overview of Kinesio Tape

1. Parreira Pdo CS, Costa Lda CM, Hespanhol LC, Lopes AD, Costa LOP. Current Evidence Does Not Support the Use of Kinesio Taping in Clinical Practice: A Systematic Review. *Journal of Physiotherapy*. 2014;60(1):31-39.

This systematic review includes an introduction to kinesiotape and provides background on its origin. The authors state that Kinesio tape was created by a Japanese's chiropractor in the 1970's. Treatment with kinesiotape should include a combination of applying tension along the tape and placing the target muscle in a stretched position. The traction applied when using KT tape promotes an elevation of the skin and reduces the pressure on the mechanoreceptors that are situated below the skin, which reduces the nociceptive stimuli. Other proposed benefits include improved blood and lymphatic circulation, reduced pain intensity, realignment of joints and change in the recruitment activity patterns of the treated muscle.

Effects of Kinesio Tape on Musculoskeletal injuries

1. Carlos F, Pairot B, Bouyer LJ, Desmeules F, Roy J-S. Effects of Kinesiotaping added to a Rehabilitation Program for Patients with Rotator Cuff Tendinopathy: Protocol for a single-blind, randomized controlled trial addressing symptoms, functional limitations and underlying deficits. *BMJ Open*. 9AD;7(9).

This study evaluates the added effects of therapeutic kinesio tape (KT) to a rehabilitation program focusing on sensorimotor training to reduce symptoms and functional limitations of individuals with rotator cuff tendinopathy (RCTe). By conducting a single blinded, randomized control trial using two groups, one group patients wore KT tape during a 6 weeks rehabilitation trial and the other group served as the control.

Measurements were taken 5 times,

- 1) Baseline
- 2) Week 3
- 3) Week 6
- 4) Week 12
- 5) Month 6.

For the baseline the patients were given the Disability of the Arm, Shoulder, and Hand (DASH) to evaluate symptoms and functional limitations, shoulder pain (BPI), symptoms of RC Disorder (WORC), evaluated active range of motion (aROM) using a goniometer, evaluated muscle activity using an **EMG** system and

the assessed the acromiohumeral distance using ultrasound. At week three the patients were assessed using a self-reported questioner, Disability of the Arm, Shoulder, and Hand (DASH), Brief Pain Inventory (BPI), Western Ontario Rotator Cuff Index (WORC). Week 6 measures assessed at baseline were repeated and a global rating of change was conducted (GRC) which assessed the change in the condition of the injury.

Eligibility criteria included

- 1) Painful arc movement during flexion or abduction
- 2) Neer or Kennedy-Hawkins impingement signs
- 3) Pain during resisted external rotation, abduction or empty can test

Exclusion criteria were

- 1) Patients with open wounds that would interfere with treatment
- 2) Previous shoulder surgery
- 3) Allergy or intolerance
- 4) Adhesive capsulitis, defined as loss of passive shoulder ROM greater than 50%
- 5) History of glenohumeral luxation in the last 12 months or any fracture to the shoulder girdle
- 6) Shoulder pain reproduced by shoulder movements
- 7) Clinical sign of full thickness tears of any RC muscle identified by lag signs: Drop sign, external rotation sign, and internal rotation sign.

When utilizing the PeDro Scale to assess the likelihood of biased in this study, this article scored a 7 out of 10 which in conclusion means there is some bias. This study failed to report their actual data., The study did not provide both point measurements and measurements of variability for any of the key outcomes. Along with that measurements of at least one key outcome were not obtained from more than 85% of the subjects initially allocated to groups.

2. Huang Y-C, Chang K-H, Liou T-H, Cheng C-W, Lin L-F, Huang S-W. Effects of Kinesio Taping for Stroke Patients with Hemiplegic Shoulder Pain: A Double-Blind, Randomized, Placebo-Controlled Study. *JORM* 2017;(49):208-215.

The purpose of this study was to investigate the use of kiniseo tape on stroke patients with hemiplegic shoulder pain. Hemiplegic shoulder pain results from muscle weakness/ partial paralysis on one side of the body. The study's design is a double-blind, placebo-controlled clinical trial composed of 21 stroke patients with hemiplegic shoulder pain within 6 months of stroke onset in the rehabilitation ward of a medical university hospital. The trial was 3- weeks long. During this time, patients were enrolled in a conventional rehabilitation protocol accompanied by either therapeutic kinesio taping or sham. 11 stroke patients were chosen for the experimental group while the remaining 10 patients served as controls (i.e. received sham treatment). Before the study began patients were evaluated which included ultrasound of the shoulder, passive range of motion in

the pain free range, and self-reported pain using a Likert scale. These measures were repeated at the conclusion of the study.

A Mann-whitney test was used to compare within the group continuous variables before and after the KT tape intervention. Wilcoxon signed rank test was used to analyze the differences and changes in values between experimental and control group. There was no statistical difference in demographic variables between both groups. Improvement in passive range of motion of the shoulder and mean shoulder pain and disability index showed some improvement. However, there was no significant changes between group differences in the pain scale score, pain free ROM or the ultrasound findings for the shoulder after the 3 weeks of treatment. The kinesio tape group showed more improvement in the numerical rating scale, shoulder flexion, external and internal rotation and shoulder pain and disability index than the sham group. The conclusion of this study showed that stroke patients with hemiplegic shoulder pain experience less shoulder pain and improvement in shoulder flexion, external and internal rotation after 3 weeks of using the kinesio tape opposed to the sham taping technique.

When utilizing the PeDro Scale to assess the likelihood of biased in this study, this article scored an 8 out of 10 which in conclusion means there is some bias. This article lost points in regard to not blinding all of the assessors as well as not reporting both point measurements and measurements of variability for a key outcome.

3. Briem K, Eythorsdottir H, Magnúsdóttir RG, Palmarsson R, Runarsdóttir T, Sveinsson T. Effects of Kinesio Tape Compared with Non-elastic Sports Tape and the Un-taped Ankle During a Sudden Inversion Perturbation in Male Athletes. *Journal of Orthopedic & Sports Physical Therapy*. 2011;41(5):328-334.

The main purpose of this study was to examine the effects of two adhesive tape conditions compared to a no-tape condition on muscle activity of the fibularis longus during a sudden, irregular movement in male athletes participating in the sports of soccer, handball, or basketball. Researches chose 30 participants from 51 premier-league athletes who were tested for functional stability of both ankles with the star excursion balance test. Of those 51, the top 15 and the lowest 15 scoring participants were chosen for this study.

Muscle activity of the fibularis longus was recorded with surface electromyography during a sudden inversion movement. Each participant was tested under 3 conditions: 1) ankle taped with non-elastic white sports tape, 2) ankle taped with Kinesio Tape, and 3) no ankle taping. Differences in mean muscle activity were evaluated with a 3-way mixed-model analysis of variance (ANOVA) for the 3 conditions, across four 500-millisecond time frames, and between the 2 groups of stable versus unstable participants. Differences in peak muscle activity and in the time to peak muscle activity were evaluated with a 2-way mixed-model ANOVA.

Results of this study suggested that non-elastic sports tape may enhance dynamic muscle support of the ankle. The ability of Kinesio Tape in preventing ankle sprains through muscle activation of the fibularis longus is unlikely.

When utilizing the PeDro Scale to assess the likelihood of biased in this study, this article scored a 9 out of 10. The deduction was a result of lack of blinding of all the assessors who measured the key outcomes.

4. Cho Y-T, Hsu W-Y, Lin L-F, Lin Y-N. Kinesio taping reduces elbow pain during resisted wrist extension in patients with chronic lateral epicondylitis: a randomized, double-blinded, cross-over study. *BMC Musculoskeletal Disorders*. 2018;19(193).

This was a randomized, double-blinded, cross-over study with 15 patients who had chronic lateral epicondylitis. All participants received two taping sessions in a random order with a 3-day interval between each session. One session used KT tape and the other used sham taping. They assessed the effects of each type of tape by measuring pain perceived during resisted wrist extension and at rest using a numeric rating scale, the pain-free grip strength, and the pressure pain threshold were measured before and 15 minutes after the tape was applied. The pain-free grip strength had the patient standing with the elbow in complete extension and the shoulder and radioulnar joint in neutral rotation. The patient then began to

squeeze a dynamometer with increasing force until they felt pain. They would then point to where the pain was on their elbow. This was repeated three times. Researchers concluded that KT tape seemed to have additional effects on controlling pain during resisted wrist extension.

This article scored an 8 out of 10 on the Pedro scale. The study did not provide both point measurements and measurements of variability for a key outcome and group allocation was not concealed.

Kinesio Tape VS Placebo

1. Luz MA, Soussa MV, Neves LA, Cezar AA, Costa LO. Kinesio Taping® is not better than placebo in reducing pain and disability in patients with chronic non-specific low back pain: a randomized controlled trial. *Brazilian Journal of Physical Therapy*. 2015;19(6):482-490.

A randomized controlled trial with a blinded assessor was conducted. Subjects ranged from 18 to 80 years of age. All subjects were referred to a physical therapist service by a physician for treatment of chronic non-specific low back pain. Inclusions to the study included but not limited to;

- 1) Not having physical therapy treatment 6 months before the beginning of this trial
- 2) Had never used kinesio tape

3) Had no prior knowledge of kinesio tape and the effect it has

Exclusions to the study included but not limited to;

- 1) Presence of skin disease
- 2) Contraindication due to the use of the tape
- 3) Serious spinal pathologies such as a tumor
- 4) An inflammatory disease or fracture
- 5) Nerve root compromise
- 6) Pregnancy
- 7) Subjects who had physical therapy treatment in the past six months
- 8) Subjects who had used or had prior knowledge of the kinesio tape method.

A total of 83 participants enrolled in this trial; of those, 23 participants were excluded for numerous reasons. The remaining 50 participants were divided into three groups, 1) kinesio tape, 2) micropore tape, and 3) control group. Both the kinesio tape and micropore tape group were blinded and the control group was not. The outcome measures were pain intensity and disability. Pain intensity was measured using a 0-10 pain scale, 0 = “no pain at all” and 10 = “worst possible pain”. Disability was assessed using the Brazilian version of the Roland Morris Disability Questionnaire (RMDQ).

The results of this study suggested Kinesio tape and micropore taping produced similar outcomes at 48 hours and seven days after baseline testing. KT

intervention was superior only when compared to the control group for the disability outcome at the 48-hour assessment. The results of this study support the notion that the therapeutic effects of the KT tape may be similar to those of the placebo. The authors go so far to suggest that Physical Therapist avoid using KT.

This article scored a 5 out of 10 on the Pedro scale and may have significant bias. The subjects, therapists, and assessors were not blinded and point measurements and measurements of variability for at least one key outcome were not provided.

2. Rahlf AL, Braumann K-M, Zech A. Kinesio Taping Improves Perceptions of Pain and Function of Patients with Knee Osteoarthritis. A Randomized, controlled trial. *Journal of Sport Rehabilitation*. February 2018.

The objective of this study was to identify the effects of kinesio tape on pain, function, gait and neuromuscular control in patients suffering from knee osteoarthritis (OA). The study was composed of 141 participants ranging from the ages of 58 to 72 years of age. All patients were diagnosed with knee osteoarthritis based on their clinical symptoms and the diagnosis was supported by radiographic evidence. Exclusion criteria included the following:

- 1) Acute inflammation
- 2) Pain with edema

- 3) A recent or simultaneous pharmacological treatment
- 4) A surgical intervention in the past six months before the trial began
- 5) Skin disease or irritation
- 6) Another previous total or partial joint endoprosthesis

The design of the study was a randomized sham-controlled trial. Patients were randomly chosen for each group (sham group, intervention group or control group). Three methods of taping were compared, 1) kinesio tape (i.e. intervention), 2) sham taping (i.e. placebo) and 3) no tape (i.e. control) for 3 consecutive days. Application of the kinesio tape and sham tape were applied by a physiotherapist who was certified and had long-term experience in elastic taping. The treatment was applied immediately after baseline measurements were collected. Patients in the intervention and sham group were blinded to their treatment group. Patients in the control group were not blinded. Data collection was conducted by the same examiner whom was not blinded.

The examiner tested a number of outcomes to determine if kinesio tape was effective for patients with knee OA. The primary outcomes of pain and physical function were tested using the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC). The WOMAC consists of 24 questions divided into three parts: 1) pain, 2) stiffness and 3) physical function. The secondary outcomes used in this trial included balance, walking speed, isometric quadriceps torque and range of motion. Balance was testing using the BESS test, walking

speed was measured by the times 10-m walk test, maximum isometric knee extension strength was assessed using an isokinetic dynamometer. All of the tests performed were supervised and verbal encouragement was given by the primary investigator. Active range of motion of knee flexion and extension was tested using a 360-degree double-armed goniometer by the primary investigator.

Of the 141 patients who joined the trial, only 131 completed it. 10 dropped out due to pain, sickness, or loss of interest in participating. The main finding of this study was that OA patients reported improved perception of pain, joint stiffness and physical function after three days of kinsiotape treatment compared to those who received a sham tape or no intervention.

This article scored a 7 out of 10 on the Pedro scale. The study did not blind all the participants, therapists or assessors who measured at least one key outcome. Those participants that were not blinded were the ones who had no intervention. Although the study was not completely blinded the majority of the participants and helpers did not know which group they belonged to.

Systematic Review

1. Parreira Pdo CS, Costa Lda CM, Hespanhol LC, Lopes AD, Costa LOP. Current Evidence Does Not Support the Use of Kinesio Taping in Clinical Practice: A Systematic Review. *Journal of Physiotherapy*. 2014;60(1):31-39.

Since this systematic review of randomized trials was written, five new studies have been conducted that evaluates the effect of kinesio taping on selected outcomes in different populations. This systematic review aimed to answer the following questions, 1) is kinesio tape more effective than no treatment or sham/placebo in people with musculoskeletal conditions for the outcomes of pain intensity, disability, quality of life, time to return to work and global impression of recovery, 2) is kinsio taping more effective than other interventions in people with musculoskeletal conditions for these outcomes, and 3) is the addition of KT taping more effective than other interventions in people with musculoskeletal conditions for theses outcomes. 275 relevant studies were retrieved. The studies were narrowed to 12 based on the following criteria:

- 1) Randomized controlled trial
- 2) Published in a peer-reviewed journal
- 3) Participants with musculoskeletal conditions
- 4) Intervention using the KT method
- 5) Outcome Measures
 - a. Pain Intensity

- b. Disability
- c. Quality of life
- d. Return to work
- e. Global impression of recovery

The 12 eligible trials were published between 2008 and 2013. The sample sizes ranged from 10 to 75 participants. The overall sample size was 495 patients with a mean of 41 participants per study. After analysis, it was determined that kinesio taping might be more effective than no treatment. An analysis of four randomized trials (N= 164 participants) sought to determine the effect of KT tape versus sham taping. In these trials, KT tape was either no more effective than sham taping or its effect was too small to be considered clinically worthwhile by the original authors and the reviewers. The eight remaining studies suggested the effects of kinesio tape were similar to those of other interventions. Therefore, the authors of this systematic review concluded that the effects of kinesio taping were no greater than the interventions for exercise and thrust manipulations and improvements in other outcomes (i.e. treatment in a range of musculoskeletal conditions) were too small to be clinically worthwhile. Therefore, the current evidence does not support the use of KT tape on musculoskeletal conditions. This article scored a 8 out of 10 on the Pedro scale because not all the subjects were blinded nor were all the assessors.